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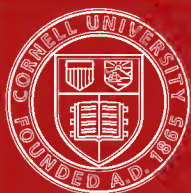
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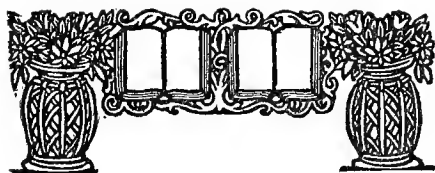
The PHILOSOPHY
OF COLOR

By C. R. CLIFFORD



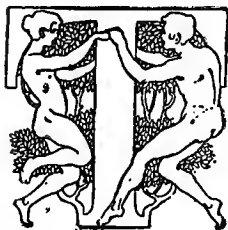
Published by Clifford & Lawton
19 UNION SQUARE, NEW YORK

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The PHILOSOPHY *of* COLOR

1. Color Nomenclature.



THE harmony of color is a visible expression of one's mental joy.

In music it is an established fact that certain notes used in combination produce harmonious sounds. The moment

that more than one note is struck, there is danger of discord, and when ten notes resound to the touch of the player, they must be the right notes, or the sounds jar upon the sensibilities.

In the use of color the same law of exactness

applies, and this treatise is an attempt to analyze and understand the law.

Color nomenclature includes three primary colors, three secondary colors, three tertiary colors, and innumerable shades and tints and modulations. All these colors bear relations to one another, either relations of analogy, like the relations of red to orange, or relations of contrast, like red to green. It is a knowledge of these relations of one color to another that must be grasped before one may successfully *produce* results that are desirable.

Let us first understand what constitutes pure color.

When a ray of sunshine passes through a glass prism it is decomposed or separated, and if the prismatic colors are received upon a white screen, you will there find a *pure blue, a pure red, and a pure yellow.*

These are colors of the spectrum, and known as the primary colors; and it is necessary, when speaking of any color, to bear these colors of the spectrum in mind as standards—a blue, for instance, that is the blue of the spectrum,

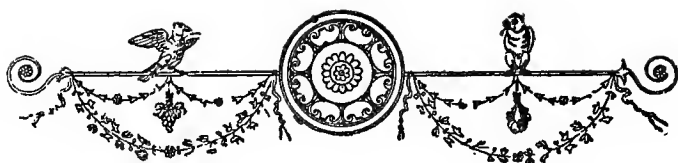
and not a blue that is "prussian," "cobalt," or "sky blue."

In speaking of harmony, moreover, we must understand that there are two distinct kinds—the HARMONY of ANALOGY, which consists of the harmony of related colors or tones of one color, and the HARMONY of CONTRAST, which is composed of colors in no way related. As an example of harmony of analogy, we would mention red and orange, because both of these colors have ingredients in common, red being one of the two component parts of orange. As an example of the harmony of contrast, we would mention red and green, because there is nothing in common between the two, red being a primary color, and green a secondary, composed of the other two primaries, yellow and blue.

Two
Kinds
of
Harmony.

Green is therefore called the complementary of red.

Thus the complementary of blue would be orange, because orange is formed by combining the remaining primaries, red and yellow; and the complementary of yellow would be violet, because violet is composed of blue and red, the other primaries.



Definitions.

PRIMARY colors are blue, red and yellow.

SECONDARY colors are orange, green and violet, each a combination of two primaries.

TERTIARY colors are colors made by combining two secondary colors ; tertiary colors are slate, russet and citrine.

QUATERNARY colors are made by combining two tertiary colors.

A COMPLEMENTARY color is that color of a set of three colors produced by combining two, which result is termed the "complementary" of the third color.

Thus green is the complementary of red in the primary set, because composed of yellow and blue.

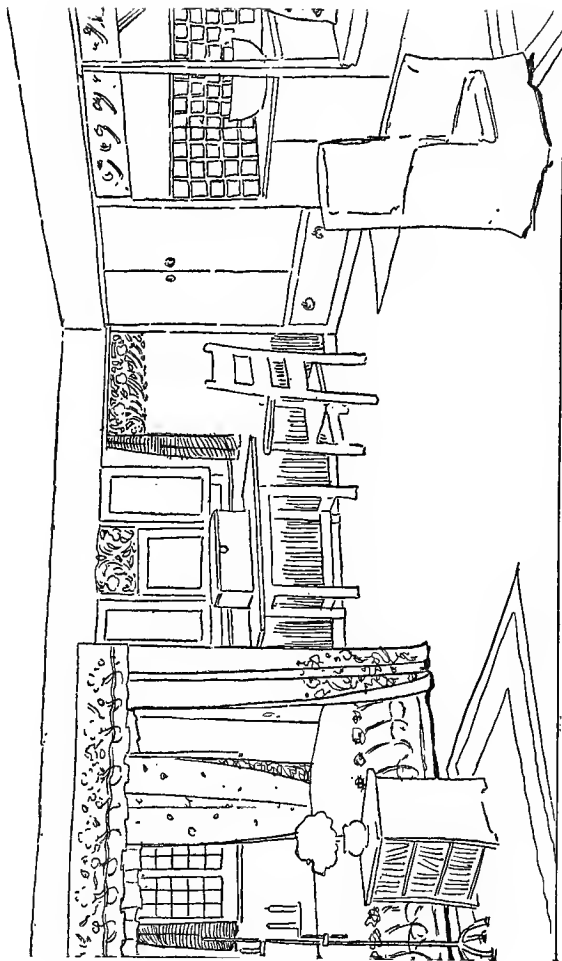
SCALE as in music relates to a sequence of notes of the same degree of tone.

LUMINOUS colors are warm colors—yellow, orange, red, light tints of green, and some light tones of sombre colors.

SOMBRE colors are blue, violet and the subdued tones of luminous colors.

COLD colors are the same as sombre colors.

GRAY—A normal gray consists of pure black and white mixed. Where white predominates, it becomes a light gray, and where black predominates, a dark gray.



Color Scheme in Harmony of Analogy. All pale tones; carpet, sage; woodwork, gray; furniture, black; upholstery, green, violet and yellow.

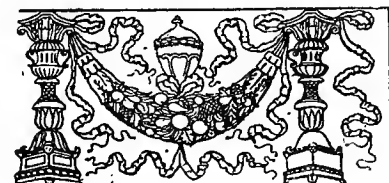
COLORED grays are normal grays to which a primary or a secondary color is added.

HUE is the change produced in a color by the addition of another color, although the original color must always be in the ascendancy.

SHADE is the tone of color produced by the addition of black.

TINT is the tone of color produced by the addition of white.

TONES are the gradations of a color by adding either black or white.



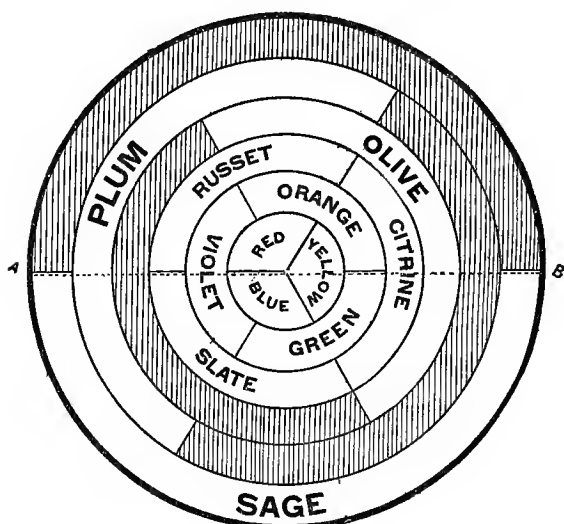


DIAGRAM I.

2. Composition of Color.

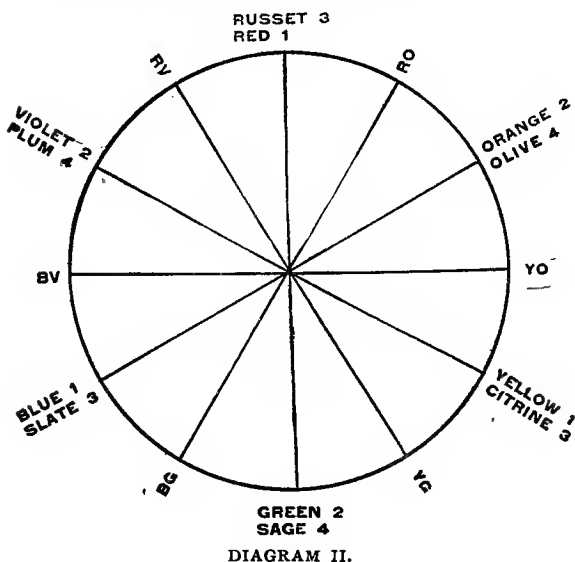
THE above chart shows the manner in which the various colors are formed.

Red, yellow and blue occupy the centre circle. The next circle is also divided into thirds, *violet*, *orange* and *green*, and by examining same

it will be seen that green contains one part each of blue and yellow; violet contains one part each of red and blue; orange, one part each of red and yellow.

The third circle shows how slate, citrine and russet are made. For instance, slate is one part of violet and one part of green. Hence, a

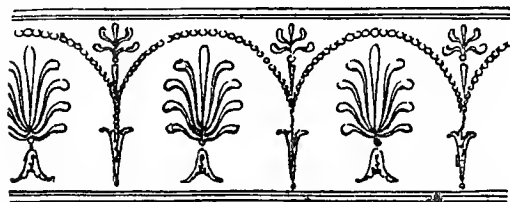
Original
Diagram
Schemes.



tertiary color is made of equal parts of two secondaries.

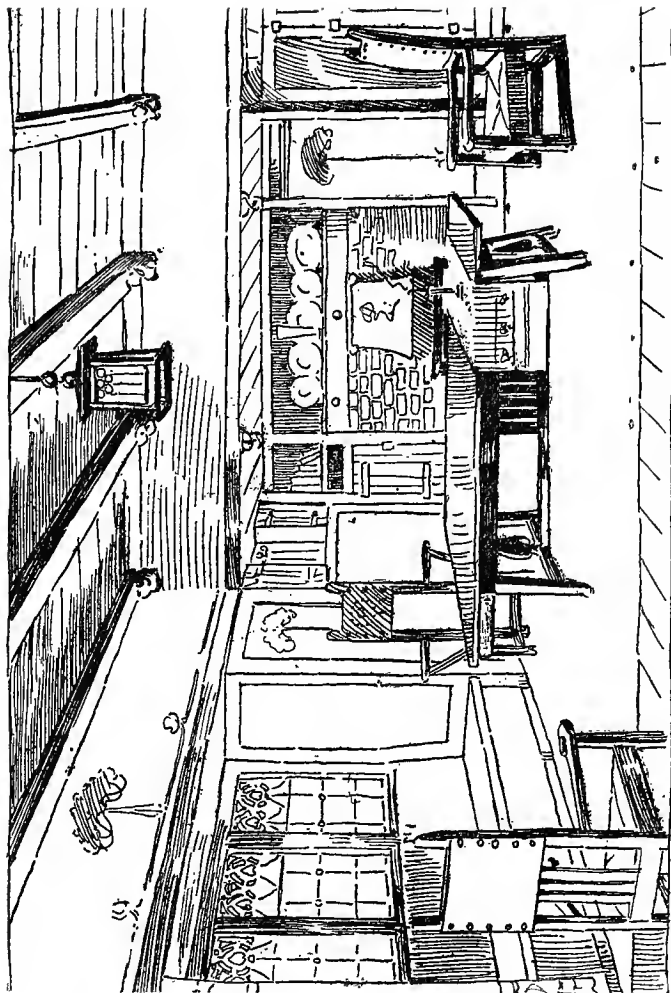
The three outer circles, olive, sage and plum, can be analyzed in the same way, sage, for instance, being composed of one part slate, with one-half part citrine.

This diagram No. 1 is arranged to show not only component parts of a color, but the parts that properly harmonize.



3. The Contrast of Color.

IN DIAGRAM 2 we have arranged at opposite points of the intersecting lines all of the primary, secondary and tertiary colors, marking the primaries 1, the secondaries 2, and the tertiaries 3. It will be recalled that in referring to harmonies of contrast we explained that a primary color contrasts with its complementary color, or the color made up by mixing the remaining two primaries. Thus red



Harmony of Contrast. An Arts and Crafts Dining Room in old oak, russet, green, violet and red.

harmonizes with green, because green is made up by combining blue and yellow.

This diagram shows the contrasting colors very clearly. Red, No. 1, contrasts with the color immediately opposite, marked No. 2.

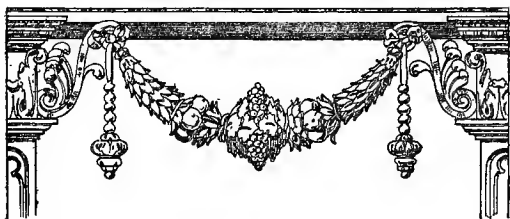
Blue, No. 1, contrasts with the color immediately opposite, orange, No. 2.*

Yellow, No. 1, contrasts with the color on the end of the line, violet, No. 2.

So on with the tertiary and quaternary colors. Russet, No. 3, contrasts with sage, No. 4.

But the diagram, No. 1, goes further into the subject.

It is easy to understand that orange is a mixture of red and yellow, but it is not so easy to know what russet is, or what slate is, and it is still more difficult to analyze plum, sage and olive, without a chart. But once understanding that plum is a combination of one part russet and one-half part slate, and that russet is half violet and half orange, and so forth (see chart), it is easy to arrange any kind of harmonies—harmonies of related parts or harmonies of dissimilar or contrasting parts.



4. The Decorative Application of Color.

IT IS a safe rule in small apartments or apartments with low ceilings, or in cases where the decorator is not sure of his grasp of the subject, to employ as the color scheme a three-color harmony of analogy.

Or, we might take one of the three quaternary colors, *sage*, and combine with it the related tertiary and secondary colors: one part slate and one-half citrine, which compose *sage*; also, the constituent parts which make slate and citrine, or one-half violet, three-fourths green and one-quarter orange.

These proportions are well worth a little study.

Sage uses slate and citrine, but when we analyze citrine we discover there is a little red in it, only to that degree wherein red enters into orange. Therefore, in using a pure red in a

room with a background of sage, very little pure red is needed.

Taking sage, then, as the tone of background, in order to determine a harmony of analogy we must combine with it all of its constituent parts in the proportions in which they occur.

**A
Quick
Guide.**

Therefore, we draw an imaginary line between A and B, which marks the composition of sage.

We then discover the following analysis :

Sage equals one part slate plus one-half part citrine.

One part slate equals one-half part violet plus one-half part green.

One-half part citrine equals one-quarter part green plus one-quarter part orange.

One-half part violet equals one-quarter part blue plus one-quarter part red.

One-half part green equals one-quarter part blue plus one quarter part yellow.

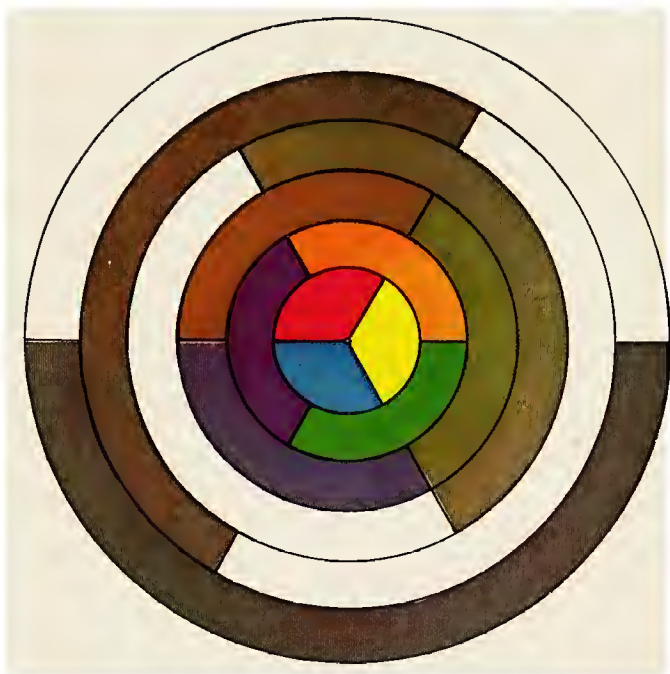
One-quarter part green equals one-eighth part blue plus one-eighth part yellow.

One-quarter part orange equals one-eighth part yellow plus one-eighth part red.

Reducing the fractions we discover that,

Sage equals the sum of one part slate and one-half citrine, or one and one-half parts or twelve-eighths.

Slate, by the same reasoning, equals two halves or eight-eighths.



Illustrating the composition and contrast of colors of the normal scale. Each of the three primaries in the centre harmonizes by contrast with the secondary color immediately opposite, and by analogy with all the colors back of it. Printed for Clifford & Lawton by the Quadri-Color Co.,³² Union Square, East.

Citrine equals one-half or four-eighths.

Violet equals one-half or four-eighths.

Green equals three-quarters or six-eighths.

Orange equals one-quarter or two-eighths.

Hence, the colors to be used in composition with sage as a background would be in proportions :

Twelve parts sage, eight parts slate, four parts citrine,
four parts violet, six parts green, two parts orange.

In all, thirty-six parts, of which sage is one-third or twelve parts.

If we take these proportions and apply them to a room or to a wall-paper or to any scheme of decoration, we can use them by applying sage as a background color of all, to be one-third in evidence when the work is completed ; or we can apply the colors to a white background, using sage in the proportions herein-before described, so that twelve parts of that color shall be used in the decorations where only eight parts slate, four parts citrine, etc., are used.

Let us take, for instance, a room that is in white woodwork, and apply the sage to the walls and the slate to the floor, and lighten the sage with citrine and lighten the slate

**An
Example.**

with violet, and intersperse orange and green in a way permitted by the proportions at our command. When the work is completed we find a harmony of analogy which can be then relieved by small touches of the primitive colors, blue, red and yellow, to sharpen and to emphasize.

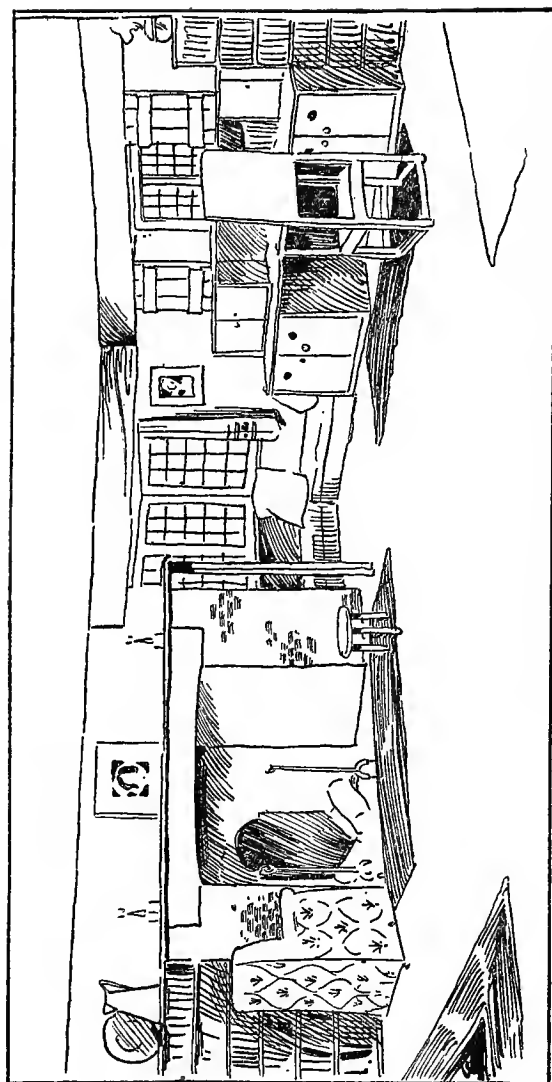
The
Color
Plate

ORNAMENTS in color on a gold ground should be separated from the ground by an edging of darker color.

Gold ornaments on a colored ground should be outlined with black.

Ornaments of any color should be separated from the ground of any other color by an edging of lighter color, or white, black or gold, although ornaments in any color or in gold may be used on white or black grounds without outline or edging.





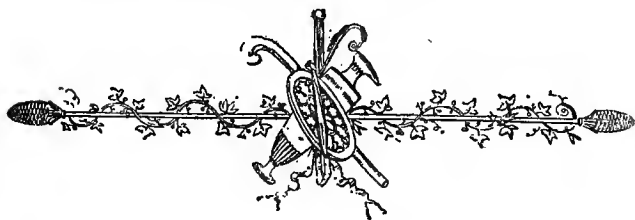
Harmony of Analogy. In yellow, orange, green, citrine and olive.



5. A Quick Way of Determining Color Contrasts.

THE letters RV mean reddish violet, being a violet having more red than blue in its composition. BV means bluish violet, being a violet having more blue than red in its composition. BG means bluish green, being a green having more blue than yellow in its composition. YG means yellowish green, being a green having more yellow than blue in its composition. YO means yellowish orange, being an orange having more yellow than red in its composition. RO means reddish orange, being an orange having more red than yellow in its composition. Thus a red may change to a yellow by gradations almost imperceptible, the change being the addition of yellow, little by little, to a reddish orange, and so on, gradually, to an orange, continuing on to a yellowish orange, and, finally, to a yellow. The contrasting color at any stage may be deter-

mined by proceeding in a direct line across the circle. For instance, take reddish orange. We know that red has for its contrasting complementary a green; reddish orange would have for its contrasting color a bluish green, for the simple reason that if red combines with green and orange combines with blue, the color between the red and the orange would combine with the color between the green and the blue. Let us determine the contrasting color for crimson, a very popular color. Crimson is simply a red slightly touched with blue. If red combines with green, a shade a little to the left of red tinged slightly with blue would combine with a shade a little to the right of green slightly tinged with yellow. In other words, a crimson would combine with a slightly yellowish green. Determine at what point of the circle any color that you have in mind will come and the contrasting color will be immediately opposite. See page 13.



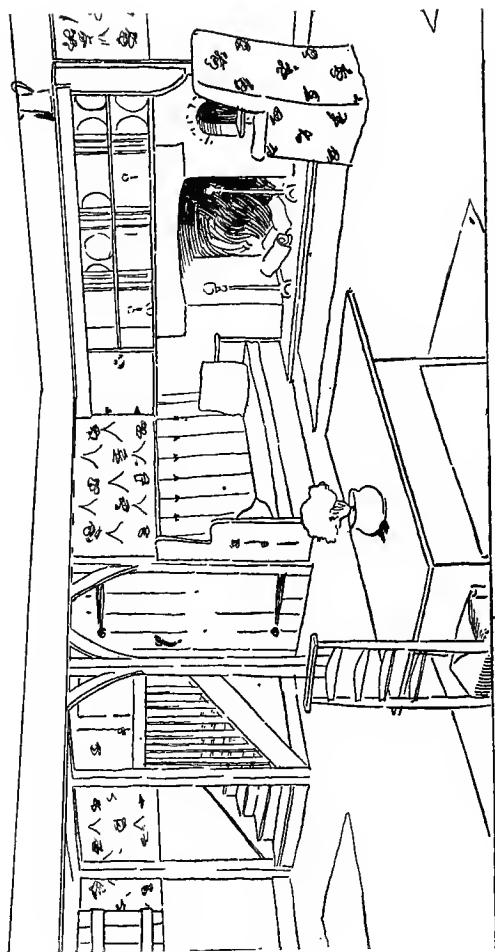


6. An Example Treatment.

THE decorator who has the faculty of harmonizing existing conditions and producing a room that is beautiful in color and beautiful in *ensemble* effect can achieve more for the public at large than he who attempts nothing but strictly period work for the few able to pay for it—to say nothing of that class more limited still who are able to appreciate it, for the full value of a work that is consistently historic is very seldom appreciated.

We all know that a northern exposure gives a room a deficiency of sunlight, and the wall treatment should supply this. A southern room, on the other hand, gives so much sunlight that counteracting wall treatments in cold color are permissible.

In the color treatment of a room one has either to adopt a harmony of analogy or a harmony of contrast, and this is a matter which



Harmony of Analogy. In white wood, pale reds, violet, orange, green and russet.

depends upon so many conditions that it should be carefully considered. Where a plate rail is used one must remember that a great deal of color may be furnished by the bric-à-brac, and that the wall should furnish behind this plate rail a suitable background.

When we follow a scheme of *contrast* the borders should be usually complementaries, and if the reader has studied our diagram he will very readily understand how to determine the exact complementary color. For yellow hangings, for instance, violet and blue; for green hangings, red in all its shades; for blue hangings, orange and yellow.

The wainscoting or dado should be the same as the top border or frieze, but of a darker tone. The intermixture of white or black is always permissible; thus a paper as a side-wall might have as its frieze the complementary coloring with more white, while the wainscoting or dado should be the same with black added.

The cornice is, of course, lighter than the border, and its members may show several tints, with the ceiling lighter still.

As a rule the color of the chair coverings should be the complementary of the side-walls,

**Frieze
and
Dado
Related**

and the color of the furniture frames should be complementary to the wainscoting ; so by following this rule we find that the wainscoting serves as a contrasting background to the chair frame, which is always desirable.

Let us imagine a room wherein the side-walls are of a reddish tint ; the wainscoting being a complementary color, is of a greenish cast, like old Spanish leather or olive wood. Now, the furniture, let us say, is mahogany. That means it is of a reddish brown, and it stands out in contrast to the wainscoting, while the chair covering, being greenish in contrast to the chair frame, it is also in contrast to the side-wall. Here we have, then, the color relations of side-wall, wainscoting and furniture-frames and covering ; but it is undesirable that these tones should be alike.

The rules cover the principle, but the man must supply the judgment.

The wainscoting, or dado, in such a case as the above is of a deep tone of the frieze, and the side-wall proper is complementary to the green before it is lightened for the frieze or darkened for the dado.

The vital point we would impress is that,

knowing the character of the furniture in the room, you *start with a properly contrasting wainscoting and build from that.*



7. The Related Parts of a Room.

THE carpet should enter into the color scheme as the low note in the scale. It is the background for the furniture, and should be of a softer tone than the wainscoting. The woodwork, baseboard, doors, moldings, plate rails, and everything of that character, except it be the picture molding, should be like the woodwork of the furniture. This brings the woodwork into contrast with the wainscoting and into harmony with the side-walls, although the degree of harmony is far removed. Thus, if the woodwork of the furniture is mahogany, the wainscoting green, the side-walls pink and gray, we would find the window frame also of

**Contrasting
Parts.**

mahogany, or imitation mahogany, in harmony with the side-walls. I would lay down the rule that the wood trims of a room should harmonize by analogy with the side-walls where such walls are provided with a contrasting wainscoting; but if there is no wainscoting then the order of things is changed. There is one less color factor in the furnishing of the scheme, and the furniture of the room being then in contrast with the side-walls, instead of in contrast with the wainscoting, necessitates that the wood trims of the room, which must harmonize with the furniture, must also be in contrast with the side-walls.

The picture molding may harmonize with the ceiling. Indeed, a white picture molding frequently is better than one matching the general woodwork, because a dark upper molding reduces the apparent size of a room. Where black furniture is used, or gold furniture, it will, of course, be understood that the wood trims shall not be black or gold; but so long as they are in harmony, that will be sufficient. The idea, however, of painting the woodwork in a fresh color is, to my mind, execrable. The woodwork may be in tones of

gray, or in natural wood tones, but never in pronounced color.

To summarize :

First,

The side-walls, the furniture-woodwork, wood trimming, and the curtains should be related.

Second,

The frieze, wainscoting or dado, chair upholsterings and the curtain borders should be related.

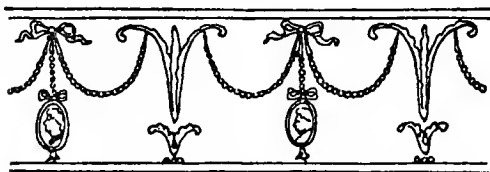
The Second Class should be in tones complementary to the First.

Should the curtains have no borders, then the curtains contrast with the wood trims.

Suppose your furniture frames are of ash, or grayish yellow : the frieze should be a violet ; the side-walls, yellow ; the wainscoting, deep violet ; the furniture, grayish yellow or ash upholstered with pale violet ; the wood trims, of a deep tone of ash ; the curtains, deep yellow, with a border of deep violet. If we preserve these relations it would be an easy matter to plan almost any color scheme and succeed. Deep violet is simply violet to which black has been added, and if violet combines with yellow, a deep violet would combine with

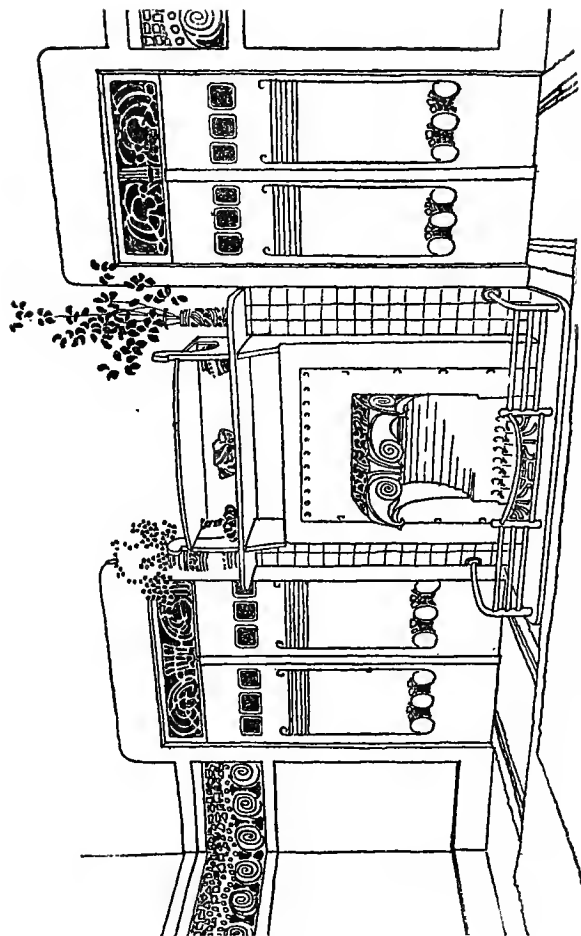
A
Summary.

a deep yellow. If we find that the tone of color of the wainscoting, for instance, is a bluish green, the side-wall should be of a reddish orange, for the reason that if green contrasts with red and if blue contrasts with orange, a bluish green would contrast with a reddish orange; but, as it is impracticable to change the color of your furniture, it is always advisable to start the color scheme with furniture and let other things harmonize therewith. Harmony is simply a pleasing *ensemble*, the arrangement of parts between which there is affinity.



8. The Use of White, Gray and Black.

TO PLACE white by the side of a color heightens or intensifies the tone of that color. To put black beside a color has the opposite effect. It weakens the color. Without explaining the reason for this, we would



Harmony of Contrast. In dull brown wood, with bright red and green.

—

call attention to the obvious fact which has been long known to women. Every woman looks better in white, hence white is the universal wedding gown, the universal party dress for children, and, wherever practicable, the universal Summer dress for adults as well. White is worn universally by men and women next the face, in collars or in neckwear, and the reason for it is that to even those of a pallid complexion the contiguous white shows up whatever little color one may possess. Black, on the other hand, lessens the color and lowers its tone. We mention these examples to impress the fact that white is a desirable combination in rooms of sombre colorings.

On the other hand, gray is a medium between the two. While it renders an adjacent color less brilliant, at the same time it takes to itself a tint that is a complementary of that adjacent color. In other words, gray by the side of green appears a pinkish. Hence, if one wishes to obtain this pinkish tint in the gray as a complementary to green, it is not necessary to tint the gray; it gets this tint by reflection. These are simple facts which are

worth remembering, especially at this time, when so much Colonial furnishing is undertaken and white woodwork is used, and so much Dutch furnishing is undertaken, requiring dull woodwork, and so much of the Arts and Crafts sort of thing is being done, requiring weathered oak or gray woodwork. Where one associates colors with white the result is what you might call a simple contrast, inasmuch as we obtain an effect of the combination intensified by the proximity of the white.

**Advancing and
Receding
Colors**

The use of dull tones or dark colors reduces the apparent size of a room by darkening it, but this may be sometimes obviated by keeping the picture rail of a light color. Indeed, a room apparently small is given the appearance of greater size by the use of a white picture molding.

Remember that sombre or heavy colors are "advancing" colors; they seem to come at you; while light tones are "receding," and give distance effect; hence, receding colors should be used in narrow or small rooms.

Black is always desirable as an associate with luminous colors, although with some sombre

colors, such as blue and violet, black assists in the making of a pleasing harmony of analogy. Black does not associate so well with two colors one of which is luminous and the other sombre, as when associated with two luminous colors. White is preferable when associated with a luminous and a sombre color. Thus, red, white and blue, orange, white and blue, red, white and violet, orange, white and violet, yellow, white and blue, green, white and blue, green, white and violet. Remember this in the use of Colonial plate rails.

Use
of
Black

ONE thing I would have the decorator dismiss from his mind, and that is the association of certain colors with certain woods. You mention mahogany to some men and they immediately think of green as the right complementary. If you speak of oak, they think of blue; but it is not a matter so easily settled.

Wood
Colors

True, if mahogany is of a reddish-brown tint, a certain shade of green is properly called for; but there are *shades* of mahogany, light and dark, vivid and dull; and one must consider also relative surface influence. Is it a

mere narrow strip of wood or a broad section? Presuming that the mahogany is of a pronounced reddish shade of brown, green is not necessarily the only thing to go with it; possibly a fabric of variegated color treatment might be used—reds, yellows, blues, greens, a perfect garden of coloring, providing always that green, the complementary tone of the mahogany-red, shall predominate.

The subject also involves questions of fitness as well as harmony; a banker's office and a lady's reception-room may be both mahogany trimmed, but should be treated in different color-ways. Above all, do not allow your personal color-sympathies to dominate your work. In everyone's nature there exists a color tone; there are some of us who run to reds, and as we have no love for blue, we seldom employ it, but we must know that all colors have their usefulness, for there are occasions where it is proper they should be used, apart from any question of harmony; one must consider always the uses of colors, the lights, and the purpose of the room under treatment.

**Sympathy
Color**



9. Color by Scale.

IN COLOR, as in music, discords result from ignorance of the commonplace rules of harmony.

Music is the result of a system of three fundamental chords which contain all the tones properly belonging to the Scale of that mode. These chords are the tonic, the dominant and the subdominant. We have a similar completeness of Scale in color tone, and the most serious mistake which the colorist perpetrates is failure to observe the quality of his Scale. He conceives, for instance, a combination of red and green, or orange and blue ; but he is seldom able to determine the exact shade of either.

It is an easy matter to do this if we bear in mind that as the tuning fork gives a fixed tone in music, so the spectrum gives the fixed tone in color.

We have through the spectrum a fixed yel-

Yellow	Orange	Red	Violet	Blue	Green	Yellow
Orange	Russet	Violet	Slate	Green	Citrine	Orange
1	2	3	4	5	6	7
Red	Violet	Blue	Green	Yellow	Orange	Red

Yellow	Orange	Red	Violet	Blue	Green	Yellow
Orange	Russet	Violet	Slate	Green	Citrine	Orange
Red	Violet	Blue	Green	Yellow	Orange	Red

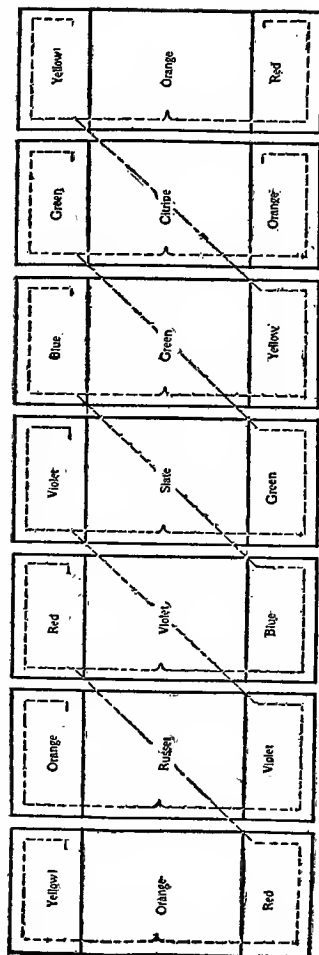
Showing Combinations of Three Colors.

low, red and blue; they are the primary colors; by combining any two of them we have the fixed secondary colors; by combining any two of the secondary colors we have the tertiaries.

All are thus in the same color scale.

At this point it is well to emphasize the facts as shown in diagram, page 13. Red is in direct contrast to the opposite color, green, which is made up by combining the other two primaries, blue and yellow. In the same manner one may discover by the diagram that orange, marked 2 (because a secondary color), is in direct contrast with slate, marked 3 (because a tertiary color), made by combining violet and green, the other two secondary colors. These nine colors are of the natural scale; they start from the color keynote in the spectrum.

In music the scale is a succession of notes arranged in the order of pitch, and a piece of music is written in a given pitch. The scale consists of a series of seven steps leading from a given note. In color, the scale is in the same order of pitch, and a color composition, to be either in harmony of analogy or



AS THESE twenty-one sections are arranged, one has the lay-out for a suite of seven rooms; following the top line across, the harmony is complete; so also with the bottom line. Follow the colors diagonally and you find they are repeats, or very close to repeats—red, russet, red, for instance; violet, violet, violet; blue, slate, blue; green, green, green; yellow, citrine, yellow; orange, orange, orange. To the colorist the combinations here suggested are full of inspiration.

Yellow	Orange	Russet 1	Red	Violet	Blue	Green	Slate	Violet	Blue	Green	Yellow	Orange	Citrine	Orange	Red
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Yellow	Orange	Russet	Red	Violet	Blue	Green	Slate	Violet	Blue	Green	Yellow	Orange	Citrine	Orange	Red
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Showing Four-Color Combinations.

contrast, should follow a given key and invariably be in the same scale.

If we have a pink and wish to carry a color scale in harmony therewith, we must determine first how much white was added to the primary red to make it a pink, and adding a similar quantity of white to the other primary colors, blue and yellow, we easily obtain the secondaries and tertiaries.

If instead of pink the red is of a deep shade requiring added black, the same process is followed.

On the other hand, if the colors under consideration are neither primaries, secondaries nor tertiaries, but mixed colors, like a crimson, we must proceed to obtain the scale of such a color in a different manner. (See diagram, page 13.)

For example, let us presume that we have crimson and we wish the scale of crimson. Crimson is a variation of red. It is made by adding a little blue. If to the red a little yellow is added instead of blue, the color would be scarlet; if a little more yellow is added it would be orange. If we bear the diagram in mind we find the subject much

simplified. The diagram is divided first into the primary colors, red, blue and yellow, each occupying one-third. If the red territory of one-third trespasses a little upon the blue territory and absorbs just that much of the blue character, it becomes crimson or reddish violet (R. V.); if the yellow is moved up to the same degree over the red it becomes a yellowish orange (Y. O.); if the blue is moved in the same degree over the yellow territory it becomes bluish green (B. G.). Hence the primary scale of crimson would be crimson or red violet, yellowish orange and bluish green. In the same way we determine the color scale of any other given hue. One must always establish the scale of color by fixing definitely one tint, shade or hue; the rest is a matter of rule.

We would not be understood for a moment as meaning that the work of the colorist is merely mechanical. The influences of color are very largely the result of proportions; the scale of color is law, but the effects are produced by what in music we call expression.

RECALLING that the primary colors are yellow, red and blue, and that the secondary colors are orange, violet and green, and that the tertiary colors are russet, slate and citrine, let us arrange a series of six rooms seriatim, so treating ceiling, side-wall and floor that in passing from one room to the other they will be in sequence of color harmony—each complete from floor to ceiling and all in harmony along the ceiling lines, the wall lines and the floor lines. (Diagram on page 40.)

We will take the first room, the third and the fifth room in harmonies of the three primary colors top and bottom, with secondary colors along the side-walls. Thus, the first room would have yellow frieze, red floor, with the side-wall in the secondary color, orange, or the color made up by combining yellow and red, and here we have a complete harmony. The third room has red in the frieze, blue on the floor and for the side-wall the secondary color, violet, which is made up by combining red and blue. So with the fifth room, we have blue at the top, yellow at the bottom and a green side-wall.

Now, to go back, we will use the secondary color nearest to yellow, which is the frieze of the first room, for the frieze of the second room; violet, the nearest secondary to red, for the floor, and russet, the tertiary color made by combining orange and violet, as the side-wall. So with the fourth room; we have violet and green top and bottom, both secondary colors, with slate on the side-wall; and in the sixth room we have green at the top, orange at the bottom and citrine on the side-wall. Thus we have the three tertiary colors, the three secondary colors and the three primary colors in the six rooms, and used in such a way that there is a complete harmony.

It will be noticed by inspection of the diagram that this is not an accidental arrangement. If you put the sixth room by the side of the first room you will find that orange is a direct line of color along the floor of the sixth room, the side-wall of the first room and the frieze of the second. You will notice that in the second room violet starts on the floor, it continues on the side-wall of the third room and is the frieze color of the fourth room.

If you take the fourth room, green is at

the bottom ; it is again on the side-wall of the fifth room and is at the top of the sixth room. This diagram is useful for many reasons. In its present shape it shows the harmonies of analogy or related parts. To arrange harmonies of contrast combine the colors of the first room with the fourth room, the colors of the second room with the fifth room, the colors of the third room with the sixth room.

We then find yellow and violet in harmony ; orange and slate, red and green, orange and blue, russet and green, violet and yellow, violet and citrine.





10. As Affecting Room Proportions.

NOTHING perplexes the decorator more than the treatment of a long parlor in the average city house, for in most cases the proportions and the light are so bad that it is difficult to do anything that doesn't narrow the dimensions still further. In some instances the length is broken by pillars and overhead grille work, so as to make two rooms of the one. But when this scheme is impracticable or disapproved the straight-line narrowness of the room can be altered by a judicious arrangement of the furniture and colors.

In obtaining proportion effects one must always start from some standpoint. The first view of any room is from the main or principal entrance, and as first impressions are important, let us consider the arrangement of a room viewed from the main entrance.

Wide effect and distance effect are obtained

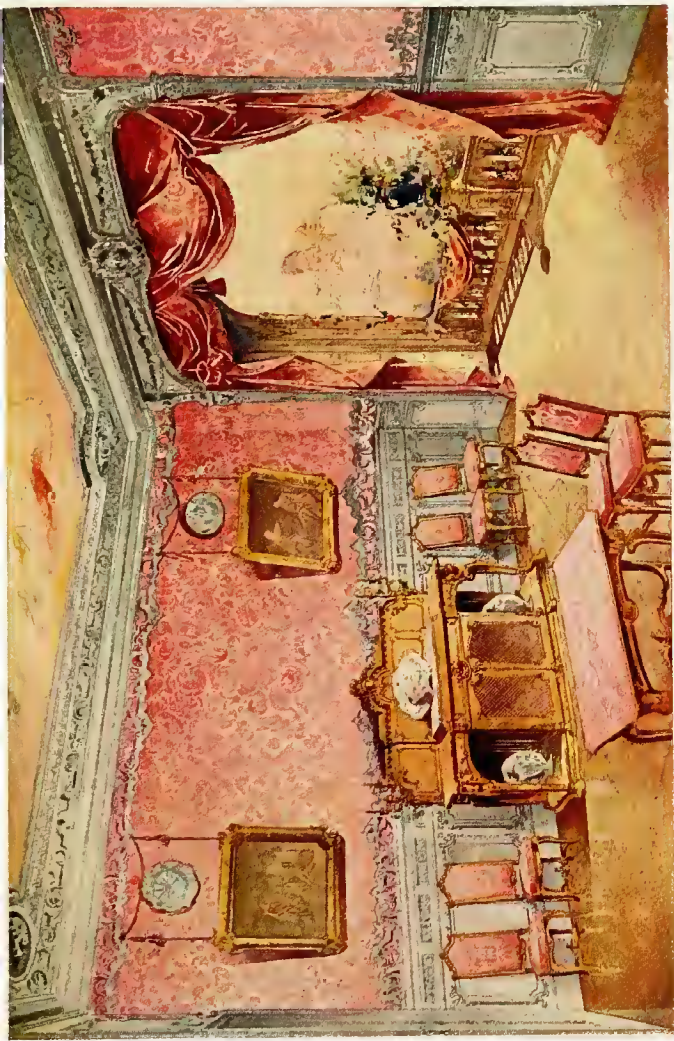
best by arranging the smallest pieces at the furthest point.

It is the same with pictures. While a room wants to be balanced, and the pictures placed in a manner to give this result, it is best, where possible, to keep the large pictures, large effects, always nearest the eye. The crowding of large pieces at the furthest point diminishes the apparent size of the room.

The use of reds, orange or yellow, or any warm colors, is to be avoided, for the use of any such colors known as advancing colors also diminishes the apparent size of the room.

We note this in the gray-blue of the sky, which appears to be at an incomprehensible distance, compared with the red and golden sunsets, which frequently look close at hand. Receding colors in the furniture, the fabrics, the walls, the pictures, all help. Sharp contrasts in colors lessen distance. Continuous design in ceiling or carpet weakens the size effect; hence rugs which break the continuity and are laid across the room instead of lengthwise are preferable.

It is a safe rule to do a small or narrow room in harmonies of analogy or related colors,



IN THE PERIOD OF LOUIS XV.

Illustrating the value of gray as neutral background. Room by Jansen, the Paris decorator. Printed for Clifford & Lawton by the Quadri-Color Co., 32 Union Square, East, New York.

colors of a light tone, and receding colors. Apart from any effect which color may have decoratively or pictorially, its value cannot be overestimated, as it applies to the laws of proportion.

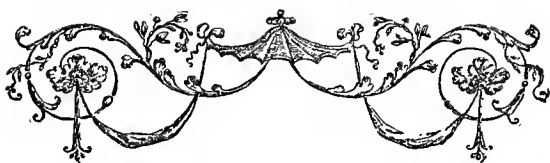
Advancing colors are colors which contain red and yellow in the ascendancy; *receding* colors are those which contain blue in the ascendancy. Of the three primary colors red and yellow would be advancing colors; blue would be a receding color. Green in its purity, being half yellow and half blue, is almost neutral. In the same way violet, being made up of half red and half blue, is theoretically neutral, although the blue tone is more assertive than the red and makes the color in the deeper shades rather sombre.

Of the secondaries, orange is an advancing color; so also is violet in the shades approaching red; green in the shades approaching yellow.

Of the tertiary colors russet is an advancing color, because while it contains some blue in the violet of its composition, it contains a preponderance of red and orange; citrine is an advancing color, because while it contains

some blue in the green of its composition, it contains a preponderance of yellow and orange; slate is a receding color, because while it contains some yellow in the green of its composition, it contains a preponderance of blue; in the same way plum may be regarded as an advancing color, because of its preponderance of red; buff is an advancing color, because of its preponderance of yellow; sage is a receding color, because of its preponderance of blue.

The room that is small should not be made smaller by the use of advancing colors, or colors which seem to come at you and bring things that are treated therewith into closer range. There are cases where a small room has a northern exposure, and while expedient to treat such a room in warm colors to supply the deficiency of sunlight, it is inexpedient for the reason that such colors make a room look smaller. Under such circumstances treat the room in light tones, gray preferred, and get the deficiency of sunlight through the warm tone in the lace curtains.



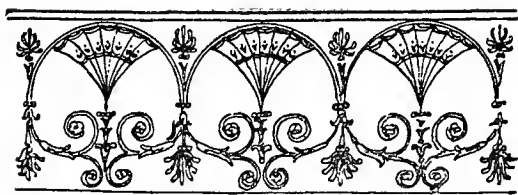
11. **Color of Contiguous Rooms.**

A VITAL point in the use of color, regarded usually with indifference or totally misunderstood, is the Unity of Composition to be preserved in the treatment of a suite of rooms; for on each floor of a house the conditions of light vary. As we ascend the stairs we find each floor requires an altered treatment. Moreover, in the arrangement of a floor the relation of one room to another is frequently so influential that no one room should be treated without due consideration to the adjacent apartment.

Too frequently the whole question of color is dismissed when the matter of north or south exposure is discovered, but the north room on the lower floor of a house is by no means so well lighted as the north room of the fourth or fifth floor, and the scale of color which

would lend warmth to such a room would be weak in a more exposed apartment.

Where the artist has but one room to consider there is little scope for his application of color knowledge. He must frequently compromise to meet the conditions. But presuming that he must treat a floor through, he should adopt a Unity which will apply harmoniously to all the rooms and hallways. Thus, in the lower floor he must arrange his colors so that while they moderate the direct glare of a sunny exposure or brighten the cheerlessness of a north light, they shall also form a composition that pleases when seen from a point of common observation. The three-color composition is always desirable. The hallway green, the front parlor yellow, the back parlor red, would form a treatment which would give satisfaction always, for the view of the side-walls from any point would be in harmony. Ascending, however, the scale of color should be always softened, for the yellow or ivory tints that are pleasing on the first floor would be harsh and glaring on the upper floors. Exterior conditions as well as interior floor plans must be borne always in mind.



12. Color Harmony by Progression.

THE harmony of analogy is a subject that is little understood. The harmony of related color is usually regarded as the harmony of tints or shades, whereas it may be color sequence, seriation, development or succession.

Thus we may combine red, green and blue by starting with crimson and maintaining the following sequence: crimson, red, scarlet, orange, yellow, greenish yellow, green, bluish green, blue, violet, and with added red get back to crimson.

A room or a series of rooms may run to all colors and be still a harmony of analogy if the sequence or succession is gradual.

No more delightful harmonies can be imagined than those provided by nature. One may start

with the brown of the earth and run into several shades of green, and from that touch upon yellow, and from yellow to orange, and from orange to red, and red to violet and violet to the blue of the sky.

**The
Color
Scale**

Green and yellow seem common to all nature tints. Blue is the color reflected from the heavens. In the home nothing is more pleasing than the harmony of sequence.

In speaking of colors one does not necessarily mean primary colors, but whatever they are they must be of the same scale if applied to a surface upon which the light is evenly distributed. Inasmuch as all houses are subject to the influence of a north or south light, or darkened places, an exception to this surface rule must be observed. Thus the ceilings and the upper parts of a wall require more white where more light is needed. On the floor, however, where the greatest light falls, a little black may be added to soften the tone.

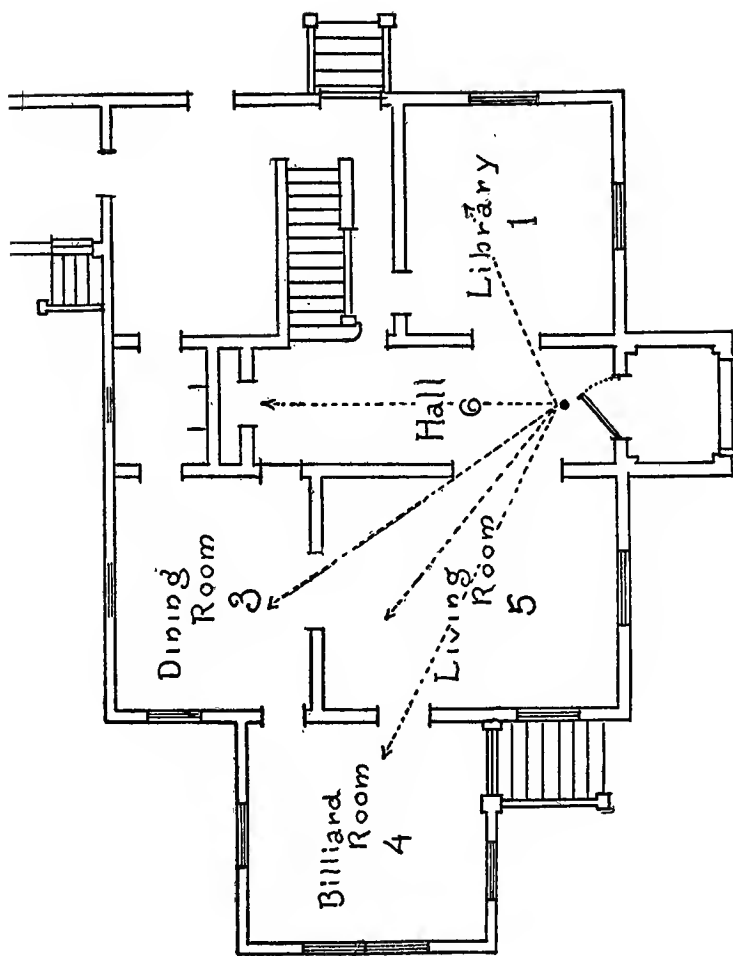
Red and green are sharply contrasting colors; violet and yellow and blue and orange contrast sharply; but it will be seen that in the diagram presented on page 43 these contrasting tones are *not in contact*.

Yellow, orange, red, violet, blue and green are related ; orange, russet, violet, slate, green and citrine are related ; red, violet, blue, green, yellow and orange are related. Viewing the ceilings, the side-walls or the floor, there is the harmony of seriation that we observe in the tinting of a flower. Viewed collectively the harmony is the same.

To illustrate further our point we would take the ceiling line. We start with yellow, a primary color ; orange possesses yellow ; orange likewise possesses red, the adjoining color ; violet possesses red, and it likewise possesses blue. On the side-wall, russet possesses orange, and it also possesses violet ; it is the tertiary color made of these two secondaries. Slate is made of green and violet, and is thus also related to citrine.

We do not wish it understood that these colors are to be applied flat, but simply in the predominating expression.

The value of the diagram is obvious when one considers that in no particular is there a break in the sequence ; but if we wish a harmony of analogy in a room, or a harmony of related parts, and wish the adjoining room to be in



absolute contrast, we simply adopt the red, violet and blue for one room, and the green, citrine and orange for another; or the orange, russet and violet for one room, and the blue, green and yellow for the other. If, however, the seriation or sequence of color is desirable where we move from one apartment to another and the eye is pleased by a gradual changing color, we can adopt any of these combinations in the order as presented.

The value of this plan may be very easily understood in laying out the color harmonies for a series of rooms. Starting from a central point, the color must assume an ascending scale on the one side and a descending scale on the other. Viewed from the extreme ends of the apartment, you have the entire range of color.

Thus from the hallway in our diagram at the bottom of page 58 let us turn to the left or right and we have a complete progressive color harmony. The hallway would be orange, citrine and green (see page 40); the library would be red, orange and yellow; to the left we have the color combinations 5, 4 and 3.



13. Psychologic Effect of Color.

WE CAN feel the softening influences of certain color treatments, and the exciting and disturbing influences of sharp contrasts. We know that those colors which are strongest in direct sun rays, like red and orange, arouse us, where the blues and violets give somnolence. We can feel the power, as with music, but we cannot determine the the cause. Professor Palmer, of Harvard University, in discussing the subject, asks :

“Why is it that red is recognized, by man and beast, as the color of violence, danger and passion ?”

“Why is green soothing to the senses ?”

“Why does blue quiet the nerves, and violet exercise a tranquilizing effect ?”

There is no doubt of the fact that nature provides vast fields of green because most

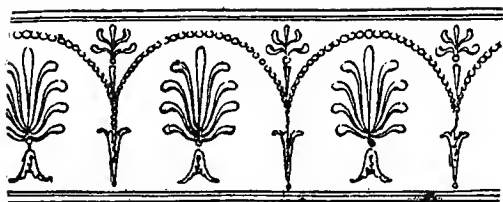
favorable in its effects upon humanity. From time immemorial we have had red as the exciting color; it is the "danger" light; it is the barbaric color—the war color—the vice color. Professor Fere, of Paris, and Professor Giardini cite innumerable instances of the effects of red light. A man, for instance, exposed for a few minutes to its influence will show a muscular development fifty per cent, in excess of his power when exposed to blue light. Professor Fere is confirmed in these conclusions by Pritchard Davies and Munsterberg, which authorities are quoted by Professor Palmer.

If a positive physical influence is exerted, as proven in the above experiment, how much more reasonable may we regard the theory that the senses and the temperament are affected? We have, in this country, experienced the "blue glass" craze. We know that smallpox is subjected to the "red room" treatment, and we know that the exclusion of the blue and violet shades from a patient suffering cutaneous disease reduces the irritation of the skin. Professor Regnault, of Paris, in an article recently published tells of

innumerable instances where blue and violet rays are used successfully in the treatment of nervous disorders, and where red is successfully employed for melancholia.

It is within the probabilities of the near future that we will have color music as we now have sound melody. The vast millions are susceptible to the influence, and in matters decorative a full and broad knowledge and appreciation of the subject is a requisite to success.





14. Color by Periods.

THE student in decorative art is so frequently confronted by the color problem, that doubtless he has often felt the need of a color chart, arranged by periods.

The idea appears on its face reasonable, but on reflection it is impossible. Color always has been and always will be dictated by national or personal temperament, whim, territorial condition or home surroundings; and no fashion can ever arbitrarily fix its use. We understand color as strong, primary or barbaric when associated with the Eastern countries or with the age of masculinity, crusade, warfare or conquest, as opposed to the age of ruffles and laces and diletanteism.

But this theory is not infallible.

In the time of Louis XIV and Louis XV the

work of La Pautre, Marrot and Berain was unusually vigorous, and embraced every color combination possible to the imagination; so also the period of Louis XVI. The Palace of Fontainebleau and Petit Trianon were in some features gorgeous in color. We associate with Marie Antoinette the simple stripe effects and delicate florals, but we doubt if there is anything more elaborate in the arts of the Eighteenth Century than the resplendent colorings of her palace apartments.

The works of Fragonard and De Wailley were exceedingly masculine, and far removed from the character of the work of Lalonde and Salembier, who were mainly for the more simple forms.

In the early days the Egyptians used sharp blacks, golds and primary colors, and we are told that strong contrasts were necessary, because of the glare of the dazzling sunshine; and that they were required to separate the architectural details of a building, which, with less powerful contrasts, would be indistinguishable, and yet in Oriental countries we find that strongly contrasting colors were used for the opposite reason—because agreeable

under the softening influence of dimly lighted surroundings.

We see the flat colors of the Greek, Etruscan and Pompeian age and we imagine they are typical of the period, but we must consider that what we have to-day of the examples of that period have faded and are emasculated, and that the more authentic the example, the more aged it is, and hence the more weakened in color character.

The decorative periods were affected so directly by the territorial conditions of the past, which means temperament, as well as atmospheric influences, that it is unwise to apply arbitrarily any period theory to a country as vast as the United States.

As we utilize certain colors for the north room and certain other colors for the south room, and as we supply a deficiency of sunlight by the use of gold and yellow, so also certain phases of color are effective in London or Pittsburg, which would be garish elsewhere. We cannot lift the colorings from the Equator and move them to latitude forty-two and get the same effect. We must consider broadly the character of our environments.

If our furniture is white and gold, it is clearly evident that the colorings should be soft and harmonious. If we adopt the dark teakwood of India or the deep brown of Holland, our color scheme again changes. The preponderance of white in Colonial rooms was due to architectural conditions. White illuminates; and in the days when our ceilings were no higher than seven and a-half feet, and our windows were small, the room needed an artificial light, and white supplied this; consequently, by its general use, we regard white as a characteristic of Colonial decoration, but this same characteristic, applied to a twelve-foot ceiling and huge windows, might give unnecessary glare, unless the windows were draped in modification.

In furnishing an Empire room, the decorators have, little by little, led themselves to believe that what is known as Empire green is the only shade of green that is correct. On the contrary, green was used in the period of the Empire simply because it was in pleasing contrast with the mahogany and brass. Any green which harmonizes with the shade of woodwork used in an Empire room is permis-

sible. If the mahogany is dark, a dark green ; if light, a light green, so long as it is warm in tone.

Egyptian decoration was full of gold and brilliant coloring, and a popular form of combination was the Tryad form :

Black, yellow and red.

Red, blue and white.

Dark blue, light blue and white.

Cream color, blue and black.

Dark red, medium yellow and dark turquoise.

The Greek decorators, who painted in fresco, used white, red, blue, yellow and black in primary tones. Natural marbles were much used in green and red and alabaster, and bronze, gold and silver.

The Greeks loved color, and their embroideries were in gold and blue and Tyrian purple.

Roman coloring was but a continuance of the Greek, characterized by dark and rich backgrounds, which were frequently black, red or deep yellow and dark blue, on which figures and landscapes, or animals, or groups from still life, were executed in bright colorings or powerful contrasts. Black and white was

used, and later, when the Byzantine artists and craftsmen found their way to Western Italy, they spread this love of bold coloring, so that at the dawn of the Renaissance we find a return to the Greek and Roman coloring, which, however, was modified in England, Germany and Flanders, according, as we have frequently said, to temperamental conditions.

We find, for instance, some forms of Florentine decoration, full of yellow, red-yellow, blue-greens and bright slate blues. We find that Botticelli used whites, creams, reds and citron greens, with umber tones heightened with gold, and if we examine carefully the Sixteenth and Seventeenth Century Italian brocades, which are preserved in the museums, we discover a great preponderance of yellow-green as an ornament on dark violet, or light olive green on dark blue, or dull orange on a crimson brown.

In furnishing a period room we must use no arbitrary rule in determining our colors. We must apply them intelligently to the conditions that exist.

The Empire period room takes its color in-

spiration from the Greek, Roman and Egyptian.

The French Renaissance takes inspiration from the Roman and Greek.

The Louis XIV is a development of the Renaissance, with a conspicuous use of gold.

The Louis XV is an elaboration along the same lines.

The Louis XVI is a simplification and a return to the classic.

The Georgian is largely Roman and Pompeian, as expressed by the Transition period that followed Louis XVI.

Greek and Roman Color Combinations.

Yellow and blue, alternating with lines of black.

Black and white, alternating with red, blue, purple, yellow.

Warm white with red in various tones.

Black with yellow, ochre and umber tints.

Cobalt blue with gray-green, yellow and gray.

Italian Color Combinations.

Red, blue and yellow.

Coral red, ultramarine, orange, amber.

Scarlet, ochre, green and violet.

Orange, green and violet, purple, yellow and gray-green.

In some of the richest early Italian fabrics we find :

Purple and sage-green ornaments on indigo ground ; outlines in gold.

Dull crimson, pale blue and chrome yellow ornaments on a dark gray ground.

Pale yellow-green ornaments on a deep amber ground.

Dark blue-green, light blue-greenish-yellow and ornaments on a deep crimson ground.

Pale greenish-blue ornaments on a dark gray-blue ground, with white and gold picked out in small quantities.

Emerald green and dull orange ornaments on a dark gray-green ground outlined in gold.

Here we have the color combinations used generally in the Italian period, which we have followed in some form for 300 years.

The Adam style was taken directly from the Pompeiian, but in most cases, instead of having the Pompeiian solid color background in crimson, with a design lightly executed in gold, or black and gold, he puts the background in the light color, and does the design in the dark. To follow strictly the Pompeiian style would be too garish.

